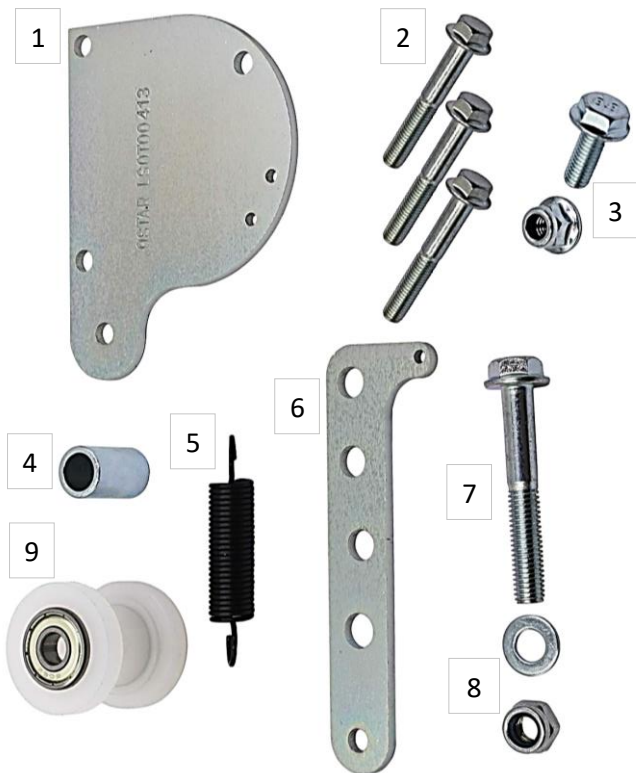


## Installation guide for a spring-loaded chain tensioner for motorized bicycles and for #415 chains

Step 1. Find all of the parts that are depicted in Figure #1. Have ready your motorized bicycle. Also have ready all necessary hand tools such as pliers, wrenches or socket drivers. Some basic lubricant such as 3-in-1 oil may also be useful.

**Tensioner kit parts. Figure #1.**



1. cover plate, "P" letter shaped
2. 3x screws for cover plate (item 1)
3. short bolt and flanged lock-nut for arm (item 6)
4. spacer for long bolt (item 7)
5. spring
6. arm
7. long bolt for pulley wheel (item 9)
8. washer and lock-nut for long bolt (item 7)
9. pulley wheel, wide version

Step 2. To possibly improve the swivel movement of the arm and to possibly improve rotation of the pulley wheel, find 2x pieces of the part as depicted in Figure #2. This part is optional.

**Optional washer part. Figure #2.**



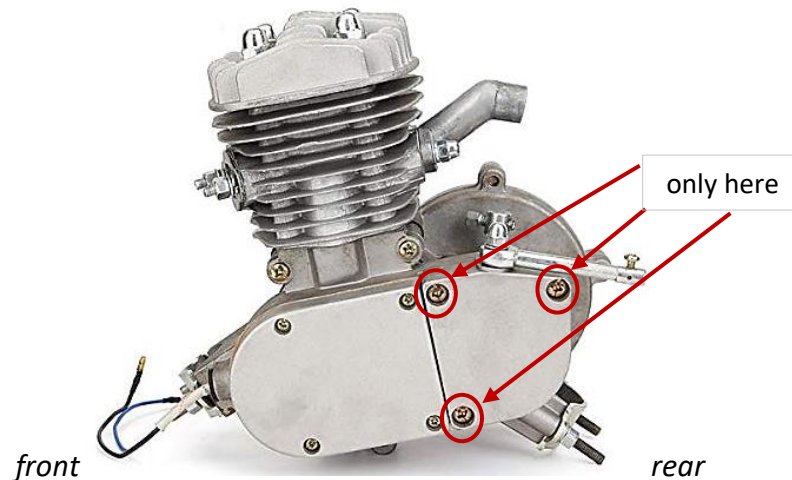
1. steel washer, 1/4" inner diameter, and 5/8" outer diameter, 2x pieces

Continue to page 2.

## Installation guide for a spring-loaded chain tensioner for motorized bicycles and for #415 chains

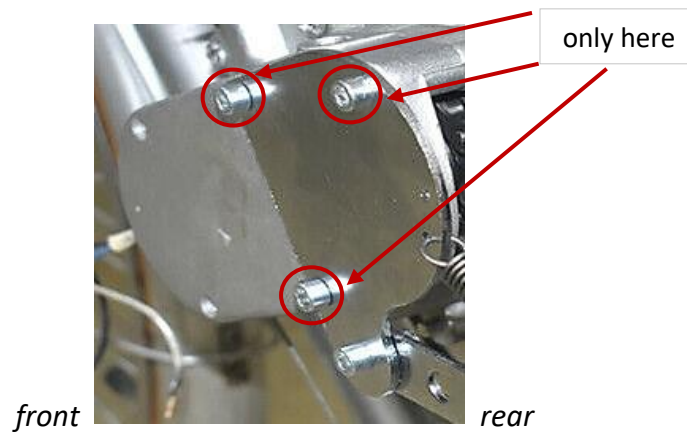
Step 3. Remove three screws from the left-rear side of the engine that is holding the cover plate which shields the engine-sprocket as depicted in Figure #3. Save the screws because you could use them sometime later. Be careful as to keep the clutch lever properly seated in the cover plate when removing screws. Hold the cover plate in place so that you can proceed to step 4.

**Engine. Figure #3.**



Step 4. Get item 1 “P” letter shaped cover plate, and item 2, 3x screws that are depicted in Figure #1. Place the “P” letter shaped cover plate over the stock cover plate and install the 3x screws as depicted in Figure #4. Now the “P” cover should be over the stock cover and both should be securely fastened to the engine. Note: the screws in your engine kit and/or in your spring-loaded tensioner kit may vary. As long as they’re long enough, they will work fine.

**“P” shaped cover plate and screws. Figure #4.**



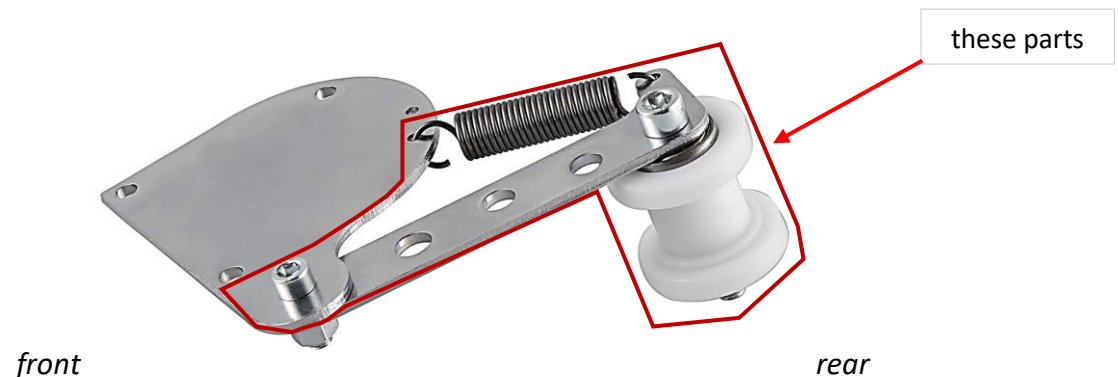
## Installation guide for a spring-loaded chain tensioner for motorized bicycles and for #415 chains

Step 5. Find and get these parts that are depicted in Figure #1 and in Figure #2:

- item 3. short bolt and flanged lock-nut for arm,
- item 4. spacer for long bolt
- item 5. spring
- item 6. arm
- item 7. long bolt for pulley wheel
- item 8. washer and lock-nut for long bolt
- item 9. pulley wheel, wide version
- Figure #2. optional washer part, 2x pieces

Assemble the listed parts together as depicted in Figure #5. Lastly install the item 5 spring onto the arm only. Do not yet attach the item 5 spring to the “P” shaped cover plate. The item 4 spacer may not be needed when using the item 9 pulley wheel, wide version. However, if your tensioner kit included an alternate pulley wheel as depicted in Figure #6, then the spacer may be needed. If you discover that the item 9 pulley wheel and/or the item 6 arm are not freely rotating/moving, then you may want to add one washer, in Figure #2, to each of item 6 and item 9. Place the optional washer *between* the arm and the pulley wheel for best results. Apply a small amount of lubricant oil to all moving parts. Note: the screws in your engine kit and/or in your spring-loaded tensioner kit may vary.

**Lower tensioner, arm assembly. Figure #5.**



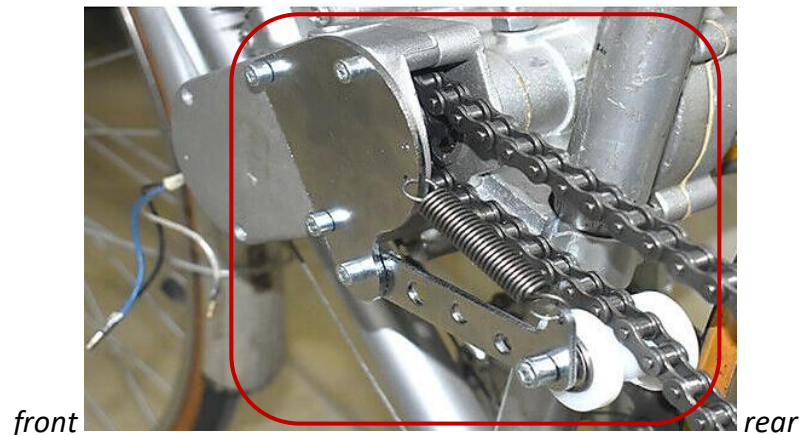
**Alternate pulley wheel, narrow version. Figure #6.**



## **Installation guide for a spring-loaded chain tensioner for motorized bicycles and for #415 chains**

Step 6. Continue to assemble all the parts of the lower tensioner, arm assembly as depicted in Figure #5. Attach the item 5 spring to both the arm and to the bottom hole of the “P” shaped cover plate. Be sure that the chain can touch the pulley wheel and rest in its center. The chain should become appropriately taught (tight) when the spring is installed. Refer to Figure #7. If the chain is too loose, allowing it to move upwards or downwards when you touch it, then re-attach the spring to top hole of the “P” shaped cover plate. If the chain is too tight, causing it to make a “grinding” noise or causing it to not freely go in / come out the engine sprocket well, then you may need to do one of two options: (1) add a 415 half-link to your chain, or (2) drill another hole in the “P” cover plate, but under the lowest placed hole that’s already there, and re-attach the spring to the new lowest hole that you had drilled. Be sure to lubricate all moving parts of the tensioner, your engine and your bicycle.

**Assembled spring-loaded tensioner. Figure #7.**



Feel free to contact me by email: [petesimon \(at\) yahoo.com](mailto:petesimon@yahoo.com) : and change (at) to @ .

Enjoy!